

SEQUENCE LISTING

<110> WEI, Ming-Hui et al.

<120> ISOLATED HUMAN G-PROTEIN COUPLED
RECEPTORS, NUCLEIC ACID MOLECULES ENCODING HUMAN GPCR
PROTEINS, AND USES THEREOF

<130> CL000900-CIP

<150> 09/695,045

<151> 2000-10-25

<160> 4

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 2618

<212> DNA

<213> Human

<400> 1

```

aacaattgcc gcgaattcgg caccgagatga aatctagttg tttaaaagcg tgtagcacct 60
cctccctctc tcttactcct gctctcacca tgtgagacgc ctgctcccc ctttgccctt 120
caccaggatt ggaagcttcc tgaggcctcc ccagaagcag aagctgctat gcttcttgta 180
cagtctgtag agctattagc cagttaaacc catctccttc ataaatttcc cagtctcagg 240
tatttctttt tagcaatttg agaatgaact aatacacaga cagagagcca ggagatggaa 300
atcccaaggt gctttcctgc tgtcttccag tctcctgctg gtgtctccca gtgtctcaat 360
tccaccagaa accagaaata aaaagaatcc cactgatgtg gtacatagaa gccactctct 420
tgggatgtca aacaggataa agaagaatgg aaagcaaata ctcattgggtc atcagactgg 480
ggtttctgag catggattca accatcccag tcttgggtac agaactgaca ccaatcaacg 540
gcagtggagg gactccttgc tacaagcaga cctgagctt caccgggctg acgtgcatcg 600
tttcccttgt cgcgtgaca ggaaacgcgg ttgtgctctg gctcctgggc tgccgcatgc 660
gcaggaacgc tgtctccatc tacatcctca acctggctgc ggccgacttc ctcttcctta 720
gcggccacat tatatgttcg ccgttacgcc tcatcaatat ccgccatccc atctccaaaa 780
tctcagtcct tgtgatgacc ttccctact ttataggcct aagcatgctg agcgccatca 840
gcaccgagcg ctgcctgtcc atcctgtggc ccatctggta ccaactgcgc cgcccagat 900
acctgtcatc ggtcatgtgt gtcctgtctt gggccctgtc cctgctgcgg agtatcctgg 960
agtggatgtt ctgtgacttc ctggttagtg gtgctgattc tgtttgggtg gaaacgtcag 1020
atttcattac aatcgctggg ctggtttttt tatgtgtggg tctctgtggg tccagcctgg 1080
tcttctggtt caggattctc tgtggatccc ggaagatgcc gctgaccagg ctgtacgtga 1140
ccatcctcct cacagtgtcg gtcttcctcc tctgtggcct gccctttggc attcagtggg 1200
ccctgttttc caggatccac ctggattgga aagtcttatt ttgtcatgtg catctagttt 1260
ccattttcct gtccgctctt aacagcagtg ccaaccccat catttacttc ttcgtggggt 1320
cctttaggca gcgtcaaaat aggcagaacc tgaagctggg tctccagagg gctctgcagg 1380
acacgcctga ggtgatgaa ggtggagggt ggcttctca ggaaaccctg gagctgtcgg 1440
gaagcagatt ggagcagtg ggaagaacct ctgccctgtc agacaggact ttgagagcaa 1500
tgctgccctg ccacccttga caattatatg catttttctt agccttctgc ctcagaaatg 1560
tctcagtggt cctcaagggt ctccgaatag atgtttatct aacctgacag ttgcagtttt 1620
caccatgga aagcattagt ctgacagtac aatgtttgga ttctccttga tattaccaat 1680
acattttccc tggtattctg cactgaatct ttctactga acactttttc tgcaacttttc 1740
attgtaataa aaggagttgc tgtccacaac cctaaaactc ttctttatac ttgtttccta 1800
cctgatagta tcaaaaagga agattcctta ttaatctgtc agactatgtt cccctgaaaa 1860
tcatgttccc ttttatgact ggaggcatta ctgcagttgg aagctcaatt ctttaataagt 1920
gagttctgct acctctaaat tccattgaat tctcagatat aaagcaaaat aatgacctta 1980

```

gagagagatt ctcccttcat aaaaacagtc ttagaaattg gttttatgaa tagccctctc 2040
 ctgtcatttg tccacagcat ggtgacatgt tggccttggg ttctagtaaa gacaatcgtg 2100
 gcccttccc cttgagaact ggtaagtctt tatttagctc ttctggact aatgaactag 2160
 tgaggagcct ataaatatgt cccaccagtt tcattttggc cattggaaac ctcaatattg 2220
 attttaaagt ggaaattatc ttgaaaacca tttattattc acttacagat tctttcagtt 2280
 gtaggagaat tcttcatact tccaggtttt gtataaattg ttctgattgt aactttcagt 2340
 tagttttatg gctgtttaca tgagaagcaa aactgaaaac atctgacctt tccatgacaa 2400
 tctcaattat ggtatctgga taataactta cagttgggtac agaattctga tacatgctgt 2460
 gacatacatg aacctggaaa tattgtgcta aggaaaataa gccagacgcc aaacaatatt 2520
 gtaagttcaa attctatgag gtatccaaat taggaaattc ttgaacacag aaaataaatt 2580
 aggaggatcc tgggtctgga aaaaaaaaaa aaaaaaaaaa 2618

<210> 2
 <211> 337
 <212> PRT
 <213> Human

<400> 2
 Met Glu Ser Lys Ser Ser Trp Val Ile Arg Leu Gly Phe Leu Ser Met
 1 5 10 15
 Asp Ser Thr Ile Pro Val Leu Gly Thr Glu Leu Thr Pro Ile Asn Gly
 20 25 30
 Arg Glu Glu Thr Pro Cys Tyr Lys Gln Thr Leu Ser Phe Thr Gly Leu
 35 40 45
 Thr Cys Ile Val Ser Leu Val Ala Leu Thr Gly Asn Ala Val Val Leu
 50 55 60
 Trp Leu Leu Gly Cys Arg Met Arg Arg Asn Ala Val Ser Ile Tyr Ile
 65 70 75 80
 Leu Asn Leu Val Ala Ala Asp Phe Leu Phe Leu Ser Gly His Ile Ile
 85 90 95
 Cys Ser Pro Leu Arg Leu Ile Asn Ile Arg His Pro Ile Ser Lys Ile
 100 105 110
 Leu Ser Pro Val Met Thr Phe Pro Tyr Phe Ile Gly Leu Ser Met Leu
 115 120 125
 Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser Ile Leu Trp Pro Ile Trp
 130 135 140
 Tyr His Cys Arg Arg Pro Arg Tyr Leu Ser Ser Val Met Cys Val Leu
 145 150 155 160
 Leu Trp Ala Leu Ser Leu Leu Arg Ser Ile Leu Glu Trp Met Phe Cys
 165 170 175
 Asp Phe Leu Phe Ser Gly Ala Asp Ser Val Trp Cys Glu Thr Ser Asp
 180 185 190
 Phe Ile Thr Ile Ala Trp Leu Val Phe Leu Cys Val Val Leu Cys Gly
 195 200 205
 Ser Ser Leu Val Leu Leu Val Arg Ile Leu Cys Gly Ser Arg Lys Met
 210 215 220
 Pro Leu Thr Arg Leu Tyr Val Thr Ile Leu Leu Thr Val Leu Val Phe
 225 230 235 240
 Leu Leu Cys Gly Leu Pro Phe Gly Ile Gln Trp Ala Leu Phe Ser Arg
 245 250 255
 Ile His Leu Asp Trp Lys Val Leu Phe Cys His Val His Leu Val Ser
 260 265 270
 Ile Phe Leu Ser Ala Leu Asn Ser Ser Ala Asn Pro Ile Ile Tyr Phe
 275 280 285
 Phe Val Gly Ser Phe Arg Gln Arg Gln Asn Arg Gln Asn Leu Lys Leu
 290 295 300
 Val Leu Gln Arg Ala Leu Gln Asp Thr Pro Glu Val Asp Glu Gly Gly

```
<210> 3
<211> 8622
<212> DNA
<213> Human
```

62

ttttttcattt ggatataaag cctcataatg atagttcaca ttgcttaatg tgatgcctag 2700
 gcccataaatt gattttttaaa atcaggacag caattactta caggaagttg aacaagatgg 2760
 gacgtgatag gagaggctta aatgtactgg atatgggaca gaggccaaaga atcatctcag 2820
 ttaggatttg tgtctcaaat acctctggcc tctgatttgc ccatagtcct catacaggaa 2880
 ataacaagac tgtccagcat cttcgttaagc ctggattgct caccagcttt catttcagct 2940
 cctgtaggca tctctgaat taagcaacac agaaaagtcc totgaagtca ctgaatccca 3000
 gaaaggctct ctacctttag cacaagggag gtcttcacca ctggacaaag aaggaacgat 3060
 aagggttaagt accaagaact ctcttcttcc acagtcagtt atgatttttg ctgtaagatc 3120
 atgtccttat gcttccacct tgggtctaca tgcagggggg cacgagcttg tttcaggaaa 3180
 agacaggaga catgaagctt cctttcagaa actgagtgtc gtcaacccaa actgtgtgag 3240
 ctctaaatgg tgtccccct tctaatttat ctcccatac cacctccttc attccaatca 3300
 ttcaatctgc cctcatggag agactgtctg ctcttacatt catttaacga gcaaggggac 3360
 atgcaggcat ttcttcccag agttgaactg ctatagagcc agtttctttg tttcacttac 3420
 ttttcaaatt tattcttctt tgcctatctg gaaaggtcta aggaagatat agatggccca 3480
 ataattaagg agtgtttcat gaggaaagta tttacaaaga tgcacagagt taagggtcag 3540
 gatcctaagc agcaatacat aggggagcac tacttctctc cctaggctga aacggacagg 3600
 gaaggagcag ttaccattgt cgccatagcc atagctgtag ccataagggg gggagagcat 3660
 gagcaggcaa gtggagaagc cctgcgtggc caacgcacag ccacacaggc tgatatagtt 3720
 tggatctgtg ttcccaccaa aatctcatgt tgattgtaat ttccaatgtt ggaggaaggg 3780
 ccttgtggga gatgattatt agatcacggg gatggttttg catgaatgtt ttaacaccat 3840
 ccccttttg tattgttgtt gtgatactga cgagttctca tgaaatctag ttgtttaaaa 3900
 gcgtgtagca cctctccct ctctcttact cctgtctca ccatgtgaga cgctctgctc 3960
 cccctttgccc tttcaccagg attggaagct tagagctatt agccagttaa acccatttcc ttcataaatt 4020
 tatgcttctt gtacagtctg tagagctatt agccagttaa acccatttcc ttcataaatt 4080
 tcccagctctc aggtatttct ttttagcaat ttgagaatga actaatcac agacagagag 4140
 ccaggagatg gaaatcccaa ggtgctttcc tgcgtctctc cagtctctg ctggtgtctc 4200
 ccagtgtctc aattccacca gaaaccagaa ataaaaagaa tcccactgat gtggtacata 4260
 gaagccactc tcttgggatg tcaaacagga taaagaagaa tggaaagcaa atcctcatgg 4320
 taaatgagac tatccctctc accttcttgt atcctcctaa ttctggggc tttctctatc 4380
 tgattgatcc ctgtctcatt tcagctctat cagactactt taatgttttg cttgtctttc 4440
 tctactgtca cttttatgca gaaatgtttg catttgttaa aaatgcatag aaaataaaat 4500
 gtaattttta aaagaacata tgtattttgt ttagaatata agtttggttg atctaataaa 4560
 gacatgaaga agaaatatct taaacaagaa agtatagttg tgctctggg tcaactaggtt 4620
 ctgaatctac agattcaaca aactacagga ggaaactttt ccaaaaataa aggtgtggcg 4680
 gagttgtgta tgtactgaac aggtacaaac ttgtatttct ttgtcattat ttctgaaaaa 4740
 ctacaatata acaagaactt atatagcatt tgcattttgt cagttattct aaataacttt 4800
 aaatgattta atgtatctgg gagaaagtgc atagagtata tacaaatacc atatataagg 4860
 aaattgagca tctgcagatt ttggtctgtg ctgggggttct ggaaagaatc ccctgtaaatt 4920
 acacaaaaat gacactcttc gagatctgaa ctagaagctc caaagcatca tacatcagaa 4980
 ttccaaaaat tgctgtctcc cagttcctag agagttgccc tcatccttgt gatcctacat 5040
 ggttcccagc gacattagca ttccagctct atggaaaaag gacgagggga aggagaggct 5100
 ttgctccttc tattaatccc atgagccagg acttgcttct gtcacttttg tgattcttcc 5160
 acttaacagc acctgctcat gggatgtcat ccagcatcaa ggaaaactgg gatgtgggtc 5220
 cttgtgctgc ttgtacattc tcagaaaggt tatgtgacca aaaaaggaaa tcttggggca 5280
 accagcagtc tcttcagccc ctgactgtct ctgattctgt gctcacatca agatttttca 5340
 ggaactcctc agaaataata aatgggtggg cagagaacag aactggagtc tctgtcagga 5400
 ctccagggac caggggctgg tattggacct gctcttcatg ttgtgaacca ggaaaacct 5460
 ttaattctct aggccttagc ttcatcttat gttatatgag gataatacca tagacagtct 5520
 ttaaagaaca tcatagcatg ttaaacaaca tgctaaatgt tggtgatacc acagtgaaaa 5580
 agacaggcat gacttactcc ttacgatctc tggggtttca tgaggaagac aaacatatca 5640
 taccatacct atagatggac aaacagttta gtgctctgag tgtggataac agaggttctc 5700
 cttttcctcc catttcttt ttgggccaat cagagctgtg gcagcttgtc tccctaagag 5760
 agctcatgat gtagcactc actcctgatg ctctctata ctcccagag aggatgcac 5820
 ttctttccac ctggagagct cctgccatg tgcattcttg ggattccaga gcaaacgtgg 5880
 cctctgatag gcaaaaaaga actcctgaat ttgttcttaa atggcacgca ctcacctcta 5940
 tttttccctt atttcatttg cttctcattc totatctgga gtttgtttag gtttaatttt 6000
 tttttcagcc cacaattttg actgtcaact tggatttaac ttgagaatca ctctctact 6060

ttacccccct ctaacatgta taatcgacac atagtgggtgc tgggtccaaa gggctgggtga 6120
 aaaaatggat catgagtcag ccctgctggg ctcacattca tactatataa tatataaacc 6180
 cccggacaaa taatatcctc tctttatact ctaatttcat tatctgcaat acaggaataa 6240
 tactaatttt tacctcctag gctcttcaga tgattaaaaag aggcaatacc taataaactg 6300
 tcaatcagct gctgttattc tcccaaatta gacctaattc tcattctcca gttgaaattt 6360
 gcatgaatat ctctctttac aacccaagcc ctacacttct cctatttcca ctcatggact 6420
 cctctcatac aaatgtttgc atcaacaaag aaacgctacc aaagatctcc cgaaagagag 6480
 aatgaaatag gtttacattg tgtatactca gcagaacact tagtagtccc ccatacatat 6540
 tcccacactt caattacctg ctgcagtggc actcaggctc accctcactt actctttcct 6600
 ctgttctatt gctgagcaat tcagctcaga cccacaccct acccaaacac tgtgtacaaa 6660
 atgcttctag gggttcggca aagccacact gagtccttat tttaaaggca catcagtggg 6720
 caatttcagg ttttgggcac tcatcaatca ttcttctcaa cacagataga gctgtccaca 6780
 aatagaattc tgatgaatga aattttcttc atctaattat atgtgtgtgt tctaattgct 6840
 tacattgtgc tttcattttt attttccatt tcatccaaat ctaccattgc cattaggctt 6900
 ctcatgcatg cattccttca ttgaatgaac gtttatgaaa agcacattgt gctgcttatg 6960
 gaataggcac taggagtata aaatgtaaaa tgtggctcctg tctgcaatga ctgacacact 7020
 gagttatttc tcacccacca ggtcccgcga ttttcacaca tcctagcgaa gatccccatt 7080
 tcctctgggt cataatgcat gatctttttt cctgtccaga gatgaccagt cctggctcatg 7140
 aggggtgtcac aaccacctct ttgtgtatct gaattcctcc acctgagaga aaatttcagg 7200
 cccaggatag agtaatcatc ggggtccacag cactggctag atgagtgggg gtgttttgat 7260
 cctaattgta tccccatgtc agcacaagaac ttgtgtggca gtagagagag gtcaggcttc 7320
 agagtcaaca agaactggat ttcaaaactg atttgaggac cccacacctt tgatagggtga 7380
 cttattctct gcgagtctct gatctctcct ctttaaataa ggacagtaaa tcccacatgg 7440
 cagggtgggtg gggagaatca gagatcaaac agctgggtgat cacatctggg ttctgtttcc 7500
 aggggtcatca gactgggggt tctgagcatg gattcaacca tcccagtctt gggtagacaa 7560
 ctgacaccaa tcaacggacg tgaggagact ccttgctaca agcagaccct gagcttcacg 7620
 gggctgacgt gcatcgtttc ccttgctcgcg ctgacaggaa acgcggttgt gctctggctc 7680
 ctgggctgcc gcatgcgcag gaacgctgtc tccatctaca tcctcaacct ggtcgcggcc 7740
 gacttctctt tccttagcgg ccacattata tgttcgccgt tacgcctcat caatatccgc 7800
 catcccatct ccaaaatcct cagtccctgt atgaccttc cctactttat aggcctaagc 7860
 atgctgagcg ccacagcac cgagcgtgc ctgtccatcc tgtggcccat ctggtaccac 7920
 tgcgcgcgc ccagataacct gtcatcggtc atgtgtgtcc tgctctgggc cctgtccctg 7980
 ctgcggagta tcctggagt gatgttctgt gacttctgt ttagtgggtg tgattctgtt 8040
 tgggtgtgaaa cgtcagattt cattacaatc gcgtggctgg tttttttatg tgtggttctc 8100
 tgtgggtcca gcctggctc gctggctcagg attctctgt gatcccgaa gatgccgtg 8160
 accaggtgt acgtgaccat cctctcaca gtgctgggtc tcctcctctg tggcctgcc 8220
 tttggcattc agtgggacct gttttccagg atccacctgg attggaaagt cttattttgt 8280
 catgtgcac tagtttccat tttcctgtcc gctcttaaca gcagtgcaca ccccatcatt 8340
 tacttcttcg tgggtcctt taggcagcgt caaaataggc agaacctgaa gctggttctc 8400
 cagagggtc tgcaggacac gcctgaggt gatgaagggt gaggggtggc tcctcaggaa 8460
 accctggagc tgtcgggaag cagattggag cagtgaggaa gaacctctgc cctgtcagac 8520
 aggactttga gagcaatgct gccctgccac ccttgacaat tatatgcatt tttcttagcc 8580
 ttctgcctca gaaatgtctc aggggtccca aggccttac ca 8622

<210> 4
 <211> 260
 <212> PRT
 <213> Human

<400> 4
 Leu Val Ser Leu Cys Gly Val Leu Leu Asn Gly Thr Val Phe Trp Leu
 1 5 10 15
 Leu Cys Cys Gly Ala Thr Asn Pro Tyr Met Val Tyr Ile Leu His Leu
 20 25 30
 Val Ala Ala Asp Val Ile Tyr Leu Cys Cys Ser Ala Val Gly Phe Leu
 35 40 45
 Gln Val Thr Leu Leu Thr Tyr His Gly Val Val Phe Phe Ile Pro Asp

65